

In The Claims:

This listing of the claims will replace all prior versions and listings of the claims in this application:

1. (Original) A method for producing a film of silver-containing material on a substrate, comprising:

depositing an amorphous film comprising at least one silver-containing precursor material on a surface of a substrate; and

irradiating the amorphous film to produce an irradiated film comprising elemental silver.

2. (Original) The method of claim 1 wherein the elemental silver film is substantially conductive.

3. (Original) The method of claim 1 wherein the irradiated film further comprises silver oxide.

4. (Original) The method of claim 3 wherein the silver oxide film is substantially a semiconductor.

5. (Original) The method of claim 1 wherein the irradiating comprises irradiating the film with electromagnetic radiation.

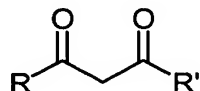
6. (Original) The method of claim 1 wherein the irradiating comprises irradiating the film with ultraviolet light.

7. (Original) The method of claim 1 wherein the irradiating comprises irradiating the film with laser light.

8. (Original) The method of claim 1 wherein the irradiating causes a substantially thermal reaction in the film.

9. (Original) The method of claim 1 wherein the irradiating comprises photolysis.

10. (Original) The method of claim 1 wherein the irradiating comprises irradiating the film with visible light.
11. (Original) The method of claim 1 wherein the irradiating comprises irradiating the film with an ion beam.
12. (Original) The method of claim 1 wherein the irradiating comprises irradiating the film with an electron beam.
13. (Original) The method of claim 1 further comprising reducing the elemental silver and silver oxide after irradiating.
14. (Original) The method of claim 1 wherein the irradiating is done in a controlled atmosphere.
15. (Currently Amended) The method of claim ~~[[13]]~~ 14 wherein the controlled atmosphere comprises nitrogen.
16. (Currently Amended) The method of claim ~~[[13]]~~ 14 wherein the controlled atmosphere comprises a vacuum.
17. (Currently Amended) The method of claim ~~[[13]]~~ 14 wherein the controlled atmosphere comprises air.
18. (Currently Amended) The method of claim ~~[[13]]~~ 14 wherein the controlled atmosphere further comprises water.
19. (Original) The method of claim 1 further comprising removing remaining unirradiated silver-containing precursor material from the substrate.
20. (Original) The method of claim 1 wherein the silver-containing precursor comprises silver complexed with at least one ligand, said ligand comprising:



wherein R and R' are each independently selected from C_nH_m and $C_nH_mA_xB_y$, wherein n, m, x and y are integers, and wherein A and B each independently comprise in-chain, terminal or pendant functional groups.

21. (Original) The method of claim 1 wherein the silver-containing precursor comprises silver (I) hexafluoroacetate tetraglyme.

22. (Original) The method of claim 1 wherein the silver-containing precursor comprises silver (I) trifluoroacetylacetonate.

23. (Original) The method of claim 1 wherein the silver-containing precursor comprises silver hexafluoroacetylacetonate.

24. (Original) The method of claim 1 wherein the silver-containing precursor comprises silveracetylacetonate.

25. (Original) The method of claim 1 further comprising covering the amorphous film with a mask that leaves a patterned area exposed.

26. (Original) A method for making a pattern of a silver-containing precursor on a substrate, comprising:

depositing an amorphous film comprising a silver-containing precursor on a surface of a substrate; and

irradiating the amorphous film using a patterning means to produce a patterned irradiated film comprising elemental silver and silver oxide.

27. (Currently Amended) The method of claim ~~[[25]]~~ 26 wherein the silver-containing precursor material is selected from the group consisting of silver (I) hexafluoroacetate tetraglyme, silver (I) trifluoroacetylacetonate, silver hexafluoroacetylacetonate, silveracetylacetonate, and combinations thereof.

28. (Currently Amended) The method of claim ~~[[25]]~~ 26 wherein unirradiated silver complex is subjected to heating, the heating converting the unirradiated silver complex into a film comprising silver oxide.

29. (Currently Amended) The method of claims 1 or ~~[[25]]~~ 26, wherein the elemental silver and silver oxide film is heated in an atmosphere comprising hydrogen.
30. (Currently Amended) The method of claim ~~[[25]]~~ 26 further comprising removing unirradiated silver-containing precursor after irradiating.